Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name and address:

Steven F. Moore & Cynthia S. Edstrom
580 Robocker Lane
Kalispell, MT 59901

2. **Type of action:** Application for Beneficial Water Use Permit 76LJ 30067956

3. **Water source name**: Groundwater

4. **Location affected by project:** The place of use is Parcel A COS 13169, NENW, Section 19, Township 28N, Range 20W, Flathead, Montana

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

The Applicant proposes to divert and use groundwater for irrigation April 15th thru October 15th at a rate of 83.5 GPM up to 18.54 AF from one well in Parcel A COS 13169, NENW, Section 19, Township 28N, Range 20W, Flathead, Montana. The place of use is generally located in Parcel A COS 13169, NENW, Section 19, Township 28N, Range 20W, Flathead, Montana. 10.4 acres will be irrigated. The DNRC shall issue a water use permit if an applicant proves the criteria in 85-2-311 MCA are met.

6. Agencies consulted during preparation of the Environmental Assessment: (include agencies with overlapping jurisdiction)

-U.S. Fish and Wildlife Service and Montana Natural Heritage Program: Endangered, Threatened Species and Species of Special Concern, Wetland Mapper program
-Montana Department of Fish Wildlife & Parks (DFWP); Dewatered Stream Information
-Montana Department of Environmental Quality's (MDEQ) Clean Water Act Information and PWS Drinking Water Watch databases
-U.S. Natural Resource Conservation Service (NRCS); web soil survey
-Montana Historical Society

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity *- Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

The applicant proposes to divert groundwater; depletions to the following two surface water sources could occur. Flathead River and Flathead Lake are not listed by DFWP as chronically or periodically dewatered. Upon analysis by the Department the source aquifer, Flathead River, and Flathead Lake were found to have water in excess of that requested by the Applicant.

Determination: No impact.

Water quality *- Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

According to the Montana Department of Environmental Quality's (MDEQ) Clean Water Act Information Center in 2014 Flathead Lake was listed as having one or more uses impaired due to one or more of the following probable causes: mercury, nitrogen (total), phosphorous (total), polychlorinated biphenyls and sedimentation/siltation. The Flathead River was categorized as having insufficient data to asses any use. The Applicant is proposing to utilize groundwater. The well is approximately 1 mile north of Flathead Lake. Irrigation use is 70% efficient meaning 30% of the water used for irrigation will return to groundwater. The total volume of water depleted from the three surface water sources is 8.0 GPM/month and is expected to have little or no effect on the water quality of these sources.

Determination: No impact.

Groundwater *- Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

The proposed use will reduce discharge from the source aquifer to the Flathead River and Flathead Lake in an amount equivalent to their consumptive use. 12.9 AF of 18.54 AF of water that is diverted is consumed. Groundwater flow paths immediately surrounding the wells will be altered due to the proposed project. The source aquifer is hydraulically connected to the Deep Aquifer in Flathead Valley. Groundwater and surface water quality will not be negatively impacted.

Determination: No impact.

DIVERSION WORKS - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

The Applicants' well (GWIC 188126) was drilled in 2006; it is 435 feet deep and has a static water level of -23.1 feet. The well casing is 8 inches in diameter 0-22 feet, 6 inches 22-435 feet and has an open bottom. It is an artesian well. The well was drilled by a licensed well driller (license # WWC-450) in accordance with MCA Title 37, Chapter 43 and ARM Title 36, Chapter 21. The Applicants' well (GWIC 188126) supplies domestic and lawn and garden irrigation water to the Applicant's residence via a submersible pump under Groundwater Certificate 76LJ 111262-00. This certificate diverts water at a rate of 26 GPM up to 3.5 AF. When capped, the closed in pressure of the well is approximately 10 psi. A 3-inch steel pipe is welded to the side of the 8-inch casing. Water pressure within the well forces water out of the 3-inch steel pipe when the valve is open. Artesian flow can be controlled via the valve. Outside the well house the 3-inch steel casing is adapted to a 4-inch buried PVC water main; water is conveyed 250 feet west to the booster pump site. The booster pump is hung from a drop pipe within an 8-inch closed bottom casing driven into the ground. The booster pump is a 7.5 horsepower 6-inch submersible pump (Model 75FA7S6-PE) capable of delivering up to 83.5 GPM at approximately 250 feet of head. The booster pump is used to pressurize the flow into the irrigation system which requires pressure in excess of that provided from the well itself. Even while pumping there is still enough excess pressure from the well column to provide the required flow. From the booster station a 3-inch PVC water main conveys irrigation water northwest approximately 530 feet. Six 2-inch irrigation headers with ball valves and cam-lock fittings come off of the mainline. A single Kifco T200L Water-Reel is used to irrigate the field. Headers two through five irrigate the fields to the east and west of the mainline while header one only irrigates the field to the west. The water-reel is equipped with a 16mm diameter Sime Hidra Sprinkler that provides up to 83.5 GPM. A system pressure of 94 psi is required to operate the water-reel at 80 GPM. The booster pump is capable of producing the required pressure. The proposed project shall not impact any channels, barriers, riparian areas and dams. Groundwater flow to surface waters will be modified; however modeling done by Department hydrogeologists show that no significant negative impact will occur to existing water users and surface/groundwater resources.

Determination: No impact.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species - *Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."*

The Montana Natural Heritage Program and DFWP websites were reviewed to determine if there are any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern", that could be impacted by the proposed project.

According to the Montana Natural Heritage Program in Township 28N, Range 20W there are seven plant species of concern. Pygmy Water-lilly (Nymphaea leibergii), Flatleaf Bladderwort

(Utricularia intermedia), Water Star-grass (Heteranthera dubia), Water Bulrush (Schoenoplectus subterminalis), Tufted Club-rush (Trichophorum cespitosum), Columbia Water-meal (Wolffia columbiana) and Scorpidium moss (Scorpidium scorpioides). Agriculture practices have disturbed this section of land for many years; any impact to sensitive plant species has most likely already occurred.

The Bull Trout (Salvelinus confluentus), Grizzly Bear (Ursus arctos), and Canada Lynx (Lynx canadensis) are listed as threatened by the USFS. The Westslope Cuthroat Trout (Oncorhynchus clarkii lewisi), Wolverine (Gulo gulo), and Fisher (Martes pennanti) are listed as sensitive by the USFS. The Pygmy Whitefish (Prosopium coulteri), Hoary Bat (Lasiurus cinereus), Great Gray Owl (Strix nebulosa), Long-billed Curlew (Numenius americanus), and Great Blue-Heron (Ardea Herodias) are rated as S3 or S3B by the state of Montana. Meaning their populations are potentially at risk because of limited and or declining numbers. An adequate quantity of water will still exist in all three sources of water to maintain existing populations of Bull Trout and Westslope Cuthroat trout should they exist there currently. Agriculture practices have disturbed this section of land for many years; any impacts to sensitive mammal species most likely has already occurred. No impact.

Determination: No impact.

Wetlands **-** *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: N/A, project does not involve wetlands or critical riparian habitats

Ponds **-** *For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: N/A, project does not involve ponds.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

According to soil survey data provided by the NRCS, soil within the place of use consists mostly of Chamokane soil which is a mixture of loams, sand and gravels. The soil is quick to drain. Soils within the place of use are not susceptible to saline seep. The stability of the soil profile and moisture content will not be significantly altered with the use of groundwater within the subdivision. No degradation of soil quality shall occur.

Determination: No impact.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

Any impacts to existing vegetation will be within the range of current disturbances due to past farming practices. Noxious weeds are not expected to be established or spread.

Determination: No impact.

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

Adverse air quality impacts from increased air pollutants are not expected as a result of this project. No air pollutants were identified as resulting from the applicants proposed use of groundwater.

Determination: No impact.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.*

Determination: N/A, project is not located on state or federal land.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

All impacts to land, water and energy have been identified and no further impacts are anticipated.

Determination: No impact.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

The project is located in an area with no locally adopted environmental plans.

Determination: No impact.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

The proposed project will not inhibit, alter or impair access to present recreational opportunities in the area. The project is not expected to create any significant pollution, noise, or traffic congestion in the area that may alter the quality of recreational opportunities. The proposed place of use and diversion do not exist on land designated as wilderness.

Determination: No impact.

HUMAN HEALTH - *Assess whether the proposed project impacts on human health.*

There should be no significant negative impact on human health from this proposed use.

Determination: No impact.

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*
Yes___ No_x__ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

Determination: No impact.

OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

(a) Cultural uniqueness and diversity? None identified.

(*b) Local and state tax base and tax revenues?* None identified.

(c) Existing land uses? None identified.

(*d) Quantity and distribution of employment?* None identified.

(e) Distribution and density of population and housing? None identified.

(f) Demands for government services? None identified.

(g) Industrial and commercial activity? None identified.

(h) Utilities? None identified.

(i) Transportation? None identified.

(j) Safety? None identified.

(k) Other appropriate social and economic circumstances? None identified.

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts: None identified.

Cumulative Impacts: None identified.

3. *Describe any mitigation/stipulation measures:* None identified.

4. ***Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*** No reasonable alternatives were identified in the EA.

PART III. Conclusion

1. ***Preferred Alternative:*** None identified.

2 ***Comments and Responses:*** None.

3. ***Finding:***
*Yes___ No_**x**__ Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain <u>why</u> the EA is the appropriate level of analysis for this proposed action:

An EA is the appropriate level of analysis for the proposed action because no significant impacts were identified.

Name of person(s) responsible for preparation of EA:

Name: Melissa Brickl
Title: Hydrologist/Water Resource Specialist
Date: April 22, 2015